

WHAT IS CLAIMED IS:

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1. A compression assembled semiconductor package comprising:
a semiconductor die having a first major surface and a second major
surface;
a control electrode disposed on a first major surface of said semiconductor
die, and first and second electrodes disposed on first and second major surfaces
respectively of said semiconductor die;
a molded plastic insulation ring annularly disposed around said
semiconductor die;
a control signal carrier extending through said molded insulation ring from
the exterior thereof and electrically connected to said control electrode;
a first pole being in surface-to-surface electrical contact with said first
electrode; and
a second pole being in surface-to-surface electrical contact with said
second electrode, whereby said semiconductor die is held in place between said first
pole and said second pole.

2. The compression assembled semiconductor package of claim 1,
wherein said first pole includes an annular rib which is connected to a corresponding
annular flange on an end of said molded plastic insulation ring.

3. The compression assembled semiconductor package of claim 1,
wherein said second pole includes an annular flange which is at least partially
embedded in said molded plastic insulation ring.

4. The compression assembled semiconductor package of claim 1,
wherein said control signal carrier comprises an L-shaped spring tab in electrical
contact with said control electrode and a lead extending through said molded plastic

insulation ring, wherein said lead and said L-shaped spring tab are electrically connected.

5. The compression assembled semiconductor package of claim 1, wherein said first pole includes a groove to allow said control signal carrier to reach said control electrode.

6. The compression assembled semiconductor package of claim 1, wherein said semiconductor die is a thyristor.

7. The compression assembled semiconductor package of claim 1, wherein said first pole includes a connection tab extending radially away from its periphery.

8. The compression assembled semiconductor package of claim 1, wherein control signal carrier comprises a spring tab having a head in electrical contact with said control electrode and a portion extending through said molded plastic insulation ring to the exterior thereof.

9. The compression assembled semiconductor package of claim 1, wherein said control signal carrier comprises at least one bond wire connected to an external lead which extends through said molded insulation ring to the exterior thereof.

10. The compression assembled semiconductor package of claim 1, wherein said control signal carrier comprises a control pin in electrical contact at one end thereof with said control electrode and electrically connected by a conductive strip to a lead that extends through the body of said molded plastic insulation ring.

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11. The compression assembled semiconductor package of claim 1, wherein said first pole comprises and forms a unitary body with a rim, said rim being ultrasonically bonded directly to an end of said molded plastic insulation ring.

Sub 2 > ~~12. The compression assembled semiconductor package of claim 1, wherein said second pole comprises and forms a unitary body with a rim, said rim being ultrasonically bonded directly to an end of said molded plastic insulation ring.~~

13. A compression assembled semiconductor package comprising:
a semiconductor device having a first major surface and a second major surface;

a control electrode disposed on a first major surface of said semiconductor die, and first and second electrodes disposed on first and second major surfaces respectively of said semiconductor die;

an insulation ring annularly disposed around said semiconductor die;

an annular flange connected to said insulation ring at an end thereof;

a first pole being in surface-to-surface electrical contact with said first electrode, said first pole unitarily including an annular rib extending from an outer surface thereof;

a circular connector connecting said annular rib and said annular flange, thereby connecting said first pole to said flange; and

a second pole being in surface-to-surface electrical contact with said second electrode and supported by said insulation ring, whereby said semiconductor device is held in place between said first pole and said second pole.

14. The compression assembled semiconductor package of claim 13, wherein said insulation ring comprises molded plastic.

15. The compression assembled semiconductor package of claim 14, wherein said second pole includes an annular flange which is at least partially embedded in said molded plastic insulation ring.

16. The compression assembled semiconductor package of claim 14, wherein said control signal carrier comprises an L-shaped spring tab which is in electrical contact with said control electrode at one end thereof and electrically connected to a control lead at its opposing end, said control lead extending through the body of said insulation ring to the exterior thereof.

17. The compression assembled semiconductor package of claim 13, wherein said first pole includes a groove to allow said control signal carrier to reach said control electrode.

18. The compression assembled semiconductor package of claim 13, wherein said semiconductor die is a thyristor.

19. The compression assembled semiconductor package of claim 13, wherein said first pole includes a connection tab extending radially away from its periphery.

20. The compression assembled semiconductor package of claim 14, wherein control signal carrier comprises a spring tab which extends through said molded plastic insulation ring to the exterior thereof.

21. The compression assembled semiconductor package of claim 14, wherein said control signal carrier comprises at least one bond wire connected to a

terminal lead which extends through said molded plastic insulation ring to the exterior thereof.

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22. A compression assembled semiconductor package comprising:
a semiconductor die having a first major surface and a second major surface;

a control electrode disposed on a first major surface of said semiconductor die, and first and second electrodes disposed on first and second major surfaces respectively of said semiconductor die;

an insulation ring annularly disposed around said semiconductor die;

a control signal carrier extending through said insulation ring from the exterior thereof and having an end in electrical contact with said control electrode;

a first pole being in surface-to-surface electrical contact with said first electrode; and

a second pole being in surface-to-surface electrical contact with said second electrode, whereby said semiconductor device is held in place between said first pole and said second pole;

wherein said second pole includes an annular flange which at least partially embedded in said insulation ring.

23. The compression assembled semiconductor package of claim 22, wherein said insulation ring comprises molded plastic.

24. The compression assembled semiconductor package of claim 23, wherein said control signal carrier is a spring tab that extends through said plastic molded insulation ring to the exterior of said package.

25. The compression assembled semiconductor package of claim 23, wherein said control signal carrier is an L-shaped spring tab having an end in electrical contact with said control electrode and another end electrically connected to a control lead which extends through said molded plastic insulation ring to the exterior thereof.

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